Information Handling Facilities

Terminals

I. INTRODUCTION

The importance of the "terminal" and its associated peripheral devices, such as light pens, disks, printers, etc., and its impact upon the Agency is most aptly stated in the Joint Strategic Plan, 1981- 1987, of the Office of Communications and Office of Data Processing:

> The growth in number and importance of remote visual display and printer stations presages a process which will find almost every employee using a terminal as an essential tool by the end of the decade.

It's the statement that followed this one that sums up the purpose of this paper: "If this concept is to be realized, planning and budgeting must take place now."

Terminals are identified as a specific dimension of the strategic planning for two reasons: they comprise one of the most costly components and they imply and produce demand for all the other information handling services. They are also of concern because the current demand seems to be explosive in character.

II. STATUS

What is a terminal? or is it a Cathode-Ray Tube (CRT)? or a Visual Display Unit (VDU)? or a multi-function workstation? or a console? or a stand-alone word processor? or an electronic typewriter, etc.? Yet, this terminology problem reflects the very nature of the problems that we encounter in discussing terminals and their use in the Agency. For discussions at a very general level, the vague notion of a "terminal" and what that encompasses is often sufficient, as for example, in the preceding paragraphs. However, at any more specific level of detail, it is this very problem of defining what terminals are, and what they can do, and what we want them to do, and how may of each kind should we have, that poses many of the difficult issues that face this Agency. Diagram 1 categorizes the many different facets of how we view terminals in this Agency.

THE TERMINAL

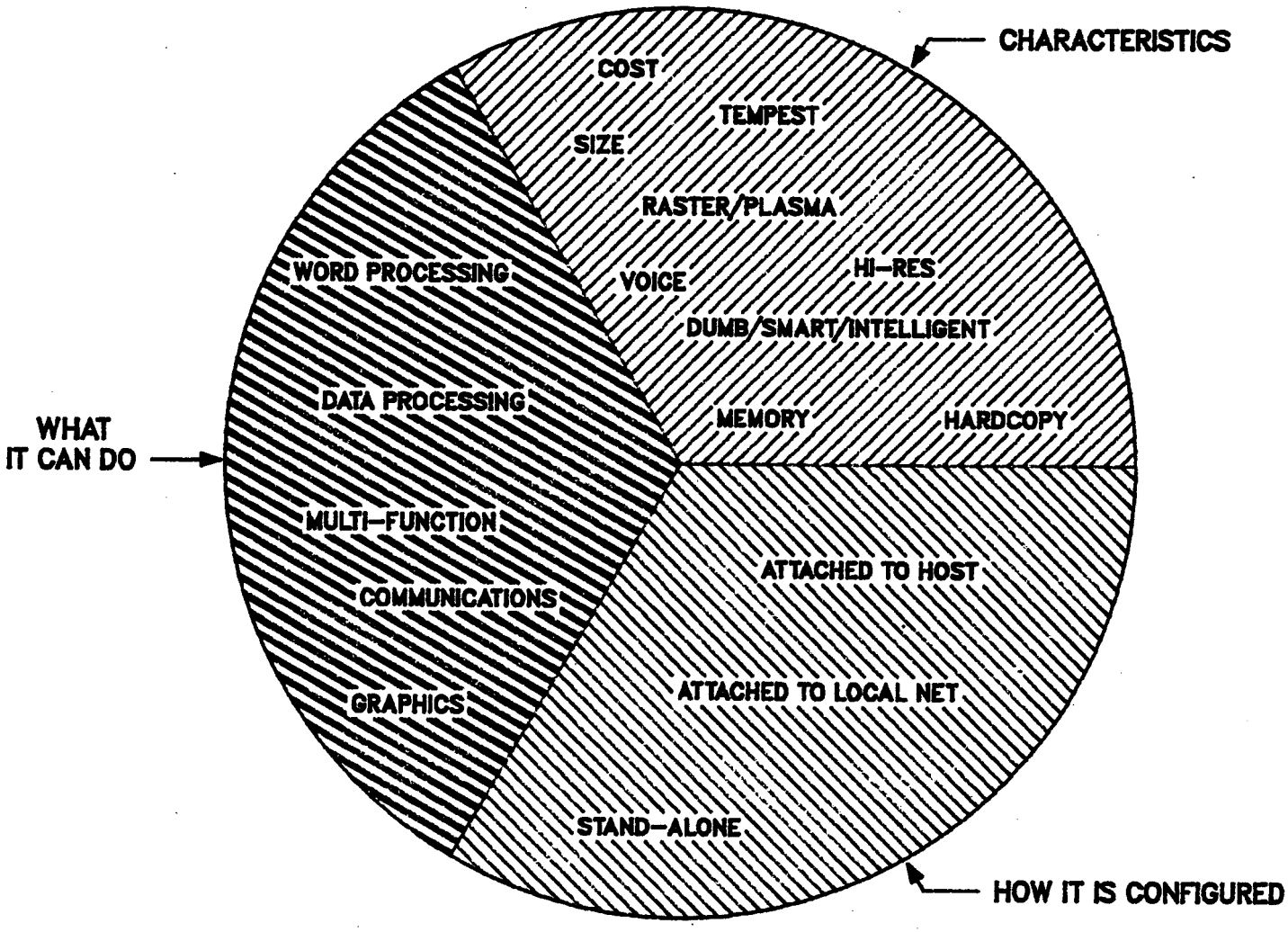

DIAGRAM 1

Diagram 1 reveals the complexity of the problems of defining terminals because of the sometimes complicated relationships that exist between what a terminal does, how it is configured and the characteristics of a terminal. Out of the many possible definitions that we could use for a terminal, there exists two sets that are probably viewed as the two major categories that terminals are placed in today. These two sets are:

1. Terminals that are purchased as stand-alone word processors, NBI's, Laniers, CPT's, etc.

2. All the other terminals that are not in the first category.

It is obvious that the distinction we make for purchasing standalone word processors is fast fading, but given today's environment, it is a sufficient enough distinction in order to at least describe the quantities of terminals that exist in the Agency. The quantities of Agency terminals in each of these categories is given in Tables 1 and 2. These figures are estimates and are used only to provide an approximation of the terminals that exist today (September 20, 1981). With the current demand for terminals, this status is changing rapidly.

Table 1 identifies the stand-alone word processors that are leased and/or purchased in the Agency by directorate. We are currently dealing with [redacted] different vendors in the procurement of these systems. They are: [redacted] This myriad of word processing systems is one reason ODP is currently drafting an RFP to standardize on an Agency word processing system. 25X1 25X1

Table 2 identifies the quantities of terminals that do not fall within the first category. Again, these numbers are best estimates provided only to give the reader an appreciation for the approximate number of terminals we are dealing with. Table 2 only identifies the more popular brands of terminals in the Agency. Special terminals, such as [redacted] terminals, and others that are few in number are not identified in this table. The total number of terminals is estimated to be [redacted] 25X1 25X1

Page Denied

Next 1 Page(s) In Document Denied

The total terminals identified in these tables is [redacted] along with [redacted] associated printers. These quantities are some measure of the terminals as they exist today in the Agency, with the exceptions noted. 25X1 25X1

On the following pages the GOALS and ISSUES revolving around terminals is discussed.

III. GOALS AND ISSUES

Several major goals and issues need to be resolved by the working group. The major goal, on which everything else is predicated, is to determine the quantity of terminals that will satisfy each of the directorate's requirements for each year until the end of the decade. That this figure is growing so rapidly is evident from the graphs depicted in diagrams 2 and 3.

The first graph, shown below in diagram 2, displays the growth of stand-alone CRT word processing terminals within the Directorate of Operations within the last five years. Similar growth (maybe not as rapidly) is occuring throughout the Agency, as our different offices learn of the utility and efficiency of word processors in the office environment.

The second graph shows the likely annual acquisition rate of terminals indicated in the first draft of the RFP for an Agency word processor on the basis of user indications. It is contrasted with the same data in the third draft three months later.

The point being made by these two diagrams is that the requirements for terminals is dynamically changing on a month to month basis as more people realize the capabilities of these systems to improve their office productivity and the quality of their product. A realistic goal of the number of terminals we are dealing with needs to be made so that appropriate planning and budgeting can take place.

A modified view of the original assumption that was made in the OC/ODP Joint Strategic Plan is presented in Table 3. Let's assume that for each directorate, one could arrive at a perceived ratio of terminals for each of the following three categories of personnel, Professional, Clerical and Technical, in each of the Directorates. Ratios are given for personnel in Headquarters and U.S. Field locations.

Next 2 Page(s) In Document Denied

Reasons for not choosing 100 percent ratios in each column are based upon the facts that there would be some positions for which there would be no need and some positions which would use a shared work station. These ratios are rough estimates taken to initiate this assessment process, and should be reestimated by working group members. If they are correct, on average, there exists a requirement to procure in the neighborhood of [redacted] terminals by the end of the decade. 25X1

If 1988 is assumed to be the target date, the growth curve for installed terminals will look something like the curve in diagram 4. Given that over 50 percent of our current base of terminals will need to be replaced, the Agency must then acquire terminals at least at the rate of [redacted] per year. 25X1

Today's terminal costs in the neighborhood of [redacted] 25X1
[redacted] for the hardware, including the cost of a hardcopy device 25X1
for every two terminals. Installation charges can range from
[redacted] to install a terminal on the RED GRID 25X1
system to [redacted] to install a terminal in 25X1
the Wideband Bus System. [redacted] is probably pretty close to an 25X1
average, in terms of today's technology. At that price, the
total cost to provide [redacted] terminals is [redacted] in 25X1
81 dollars.

Leasing stand-alone word processors, as we are doing now, is not an attractive alternative. In fact, the high cost of leasing is a strong motivator to purchase. Today, the leasing cost for the [redacted] stand-alone word processing terminals in 25X1
the Agency is approximately [redacted] a 25X1
year. In general, our total unit lease costs equal the purchase price at somewhere between two and three years.

It seems reasonably clear that if the number of terminals required is similar to that projected, the direct concern is the strategy of acquiring them: how to get a lower average cost of an installed terminal and what the time-phased acquisition program should look like. This latter then needs to be further defined in terms of its composition in terms of major categories.

To get a lower average cost there is probably only one option and that is to plan for a price break deliverable by commercial technology, implemented in accordance with TEMPEST requirements.

That means that a time frame, such as 1983 to 1984 should be defined, during which new commercial technology will be exploited. Further questions are then, for what types of terminals or terminal functionalities? These expressions have to be broadly stated, since future terminal capabilities cannot be projected with a high degree of accuracy.

Probably the big question is, how much are [redacted] terminals worth to the Agency in FY-81 dollars? This can be translated as saying that the terminal question may be more a design to cost problem than a question of how much performance is desired/required.

25X1

IV. QUESTIONS

The questions that need to be addressed in dealing with strategic planning with respect to terminals includes:

1. What should the ultimate percentage allocation of terminals be (update of Table 3) and when should it be achieved?

2. What are the characteristics of the quantity of terminals that have been determined in response to question 1?

   a) What are the requirements for word processing?

   b) What are the requirements for data processing?

   c) What are the requirements for office automation? Electronic Mail? Time Management? MIS?

   d) What are the graphics requirements?

   e) What are the availability requirements with regard to both the terminal and system? (distributed vs. centralized functionalities)

3. What are annual terminal requirements by directorate by type of terminal?

4. What are the peripheral requirements for terminals? What are the requirements for local printers? local communications?